

110TH CONGRESS  
2D SESSION

# S. 3324

To provide leadership regarding science, technology, engineering, and mathematics education programs, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JULY 24 (legislative day, JULY 23), 2008

Mr. LIEBERMAN (for himself and Mr. COLEMAN) introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

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## A BILL

To provide leadership regarding science, technology, engineering, and mathematics education programs, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Science, Technology,  
5 Engineering, and Mathematics Education for the 21st  
6 Century Act of 2008”.

1 **SEC. 2. NATIONAL COUNCIL FOR SCIENCE, TECHNOLOGY,**  
2 **ENGINEERING, AND MATHEMATICS EDU-**  
3 **CATION.**

4 (a) ESTABLISHMENT.—There is established a feder-  
5 ally chartered corporation to be known as the National  
6 Council for Science, Technology, Engineering, and Mathe-  
7 matics Education (referred to in this section as the  
8 “STEM Council”) which shall be incorporated under the  
9 laws of the District of Columbia and which shall have the  
10 powers granted in this section. Notwithstanding any other  
11 provision of law, the STEM Council is a private entity and  
12 is not an agency, instrumentality, authority, entity, or es-  
13 tablishment of the United States Government.

14 (b) MISSION.—The mission of the STEM Council is  
15 to—

16 (1) provide guidance and coordinate and facili-  
17 tate the flow of information about science, tech-  
18 nology, engineering, and mathematics (referred to in  
19 this section as “STEM”) education among State,  
20 local, and private entities, as well as the general  
21 public;

22 (2) provide leadership by identifying critical de-  
23 ficiencies in the Nation’s STEM education systems  
24 and proposing strategies for members of the STEM  
25 Council to collaborate to address such deficiencies;

1           (3) serve as a primary focal point for Federal  
2 agencies to improve their coordination with, and  
3 service to, State and local school systems; and

4           (4) promote STEM fields and educate the gen-  
5 eral public about the value of a STEM education.

6       (c) BOARD OF DIRECTORS.—

7           (1) IN GENERAL.—The management of the  
8 STEM Council shall be vested in a Board of Direc-  
9 tors composed of 23 voting members and 10 non-  
10 voting members, who shall meet not less frequently  
11 than quarterly.

12          (2) INITIAL APPOINTMENTS.—The Director of  
13 the National Science Foundation, in consultation  
14 with the Chairmen and Ranking Members of the  
15 Committee on Health, Education, Labor, and Pen-  
16 sions of the Senate, the Committee on Commerce,  
17 Science, and Transportation of the Senate, the Com-  
18 mittee on Education and Labor of the House of  
19 Representatives, and the Committee on Science and  
20 Technology of the House of Representatives, shall  
21 appoint, in accordance with this subsection, the ini-  
22 tial voting members of the Board of Directors of the  
23 STEM Council.

24          (3) APPOINTMENTS.—The Director of the Na-  
25 tional Science Foundation, in consultation with the

1       STEM Council, shall appoint, in accordance with  
 2       this subsection, a new voting member of the Board  
 3       of Directors of the STEM Council after a voting  
 4       member has completed service on the STEM Coun-  
 5       cil.

6               (4) REPRESENTATIVES ON THE STEM COUN-  
 7       CIL.—

8               (A) VOTING SEATS.—The Board of Direc-  
 9       tors of the STEM Council shall consist of the  
 10      following voting members:

11              (i) Two State Governors or former  
 12      Governors.

13              (ii) Two chief State school officers.

14              (iii) One local school board represent-  
 15      ative.

16              (iv) One representative from the Na-  
 17      tional Science Board.

18              (v) One active classroom teacher in  
 19      science or mathematics.

20              (vi) One active classroom teacher in  
 21      engineering.

22              (vii) One school administrator.

23              (viii) One representative from organi-  
 24      zations representing community colleges.

1 (ix) One representative from organiza-  
2 tions representing research universities.

3 (x) One representative from techno-  
4 logical institutes or organizations rep-  
5 resenting technological institutes.

6 (xi) One representative from informal  
7 STEM education organizations.

8 (xii) Three representatives from local  
9 school boards, State legislatures, and other  
10 State and local officials.

11 (xiii) Two representatives from var-  
12 ious teacher, parent-teacher, and STEM  
13 education organizations.

14 (xiv) Three representatives from var-  
15 ious organizations representing industry  
16 and business associations with an interest  
17 in hiring a STEM-educated workforce.

18 (xv) Two representatives from various  
19 organizations that support educational ini-  
20 tiatives, the Nation's global competitive-  
21 ness, or STEM education specifically.

22 (B) NONVOTING SEATS.—The Board of  
23 Directors of the STEM Council shall consist of  
24 nonvoting members for the following seats:

1 (i) The two co-chairs of the STEM  
2 Committee established under section 3.

3 (ii) One representative from the ma-  
4 jority party and 1 representative from the  
5 minority party from each of the following  
6 committees:

7 (I) The Committee on Health,  
8 Education, Labor, and Pensions of  
9 the Senate.

10 (II) The Committee on Com-  
11 merce, Science, and Transportation of  
12 the Senate.

13 (III) The Committee on Edu-  
14 cation and Labor of the House of  
15 Representatives.

16 (IV) The Committee on Science  
17 and Technology of the House of Rep-  
18 resentatives.

19 (C) CO-CHAIRS.—The Board of Directors  
20 of the STEM Council shall have 2 co-chairs  
21 who shall be a Governor, or former Governor,  
22 and a chief State school officer appointed by  
23 the Director of the National Science Founda-  
24 tion in consultation with the Chairmen and  
25 Ranking Members of the Committee on Health,

Education, Labor, and Pensions of the Senate, the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Education and Labor of the House of Representatives, and the Committee on Science and Technology of the House of Representatives.

(5) NATIONAL ACADEMY OF SCIENCES SUPPORT.—The Director of the National Science Foundation shall enter into an agreement with the National Academy of Sciences—

(A) to provide staff support to the Board of Directors of the STEM Council; and

(B) to carry out any projects proposed by the Board of Directors or required under this Act.

(d) ACTIVITIES.—

(1) MANDATORY ACTIVITIES.—

(A) IN GENERAL.—The STEM Council shall carry out the following activities:

(i) Provide leadership by identifying critical deficiencies in the Nation’s STEM education systems and proposing strategies for members of the STEM Council to collaborate to address such deficiencies.

1           (ii) Not later than 18 months after  
2           the date of enactment of this Act, and an-  
3           nually thereafter, the STEM Council shall  
4           submit a report that highlights the status  
5           of STEM education in the Nation and the  
6           States to the Committee on Health, Edu-  
7           cation, Labor, and Pensions of the Senate,  
8           the Committee on Commerce, Science, and  
9           Transportation of the Senate, the Com-  
10          mittee on Education and Labor of the  
11          House of Representatives, the Committee  
12          on Science and Technology of the House of  
13          Representatives, the Governor of each of  
14          the 50 States, and the STEM Committee  
15          established in section 3. Each report sub-  
16          mitted under this clause shall be widely  
17          available to the public and posted on the  
18          website of the STEM Council.

19          (iii) Evaluate progress toward the  
20          goals described in the National Action  
21          Plan of the National Science Board on a  
22          regular and sustained basis, including the  
23          effectiveness of the STEM Committee, es-  
24          tablished under section 3, in coordinating



1 kindergarten through graduate-level Fed-  
 2 eral STEM education programs.

3 (iv) Serve as a national resource by  
 4 disseminating through the Department of  
 5 Education to State and local educational  
 6 agencies information on research on teach-  
 7 ing and learning, including best edu-  
 8 cational practices, and encouraging the  
 9 adoption of such practices.

10 (v) Help States establish or strength-  
 11 en existing P-16 or P-20 STEM councils  
 12 and serve as a technical resource center for  
 13 P-16 or P-20 STEM councils.

14 (vi) Utilize scientifically valid studies  
 15 to determine programs that raise student  
 16 achievement or interest in STEM fields.

17 (vii) Direct the Department of Edu-  
 18 cation to promote the programs described  
 19 in clause (vi) to State educational agencies  
 20 and local educational agencies.

21 (viii) Work with all stakeholders to  
 22 address—

23 (I) the removal of barriers that  
 24 exist throughout the Nation in re-

1           cruiting and retaining effective STEM  
2           educators; and

3                   (II) the removal of barriers im-  
4           posed by local educational agencies on  
5           the movement of STEM educators be-  
6           tween local educational agencies both  
7           within and across States.

8           (ix) Propose models for effective  
9           teacher professional development.

10           (x) Launch a public education initia-  
11          tive to—

12                   (I) promote STEM fields to the  
13           general public, especially to stake-  
14           holders that represent individuals  
15           identified in section 33 or 34 of the  
16           Science and Engineering Equal Op-  
17           portunities Act (42 U.S.C. 1885a,  
18           1885b); and

19                   (II) raise awareness that STEM  
20           education is essential for the Nation's  
21           success.

22           (B) DATABASE ON FEDERAL AND NON-  
23          FEDERAL SCIENCE, TECHNOLOGY, ENGINEER-  
24          ING, AND MATHEMATICS EDUCATIONAL INITIA-  
25          TIVES.—

1 (i) ESTABLISHMENT AND MAINTENANCE OF DATABASE.—

3 (I) DATABASE.—The STEM  
4 Council shall establish and maintain,  
5 on a public website of the STEM  
6 Council, a database consisting of in-  
7 formation on Federal scholarships,  
8 fellowships, and other Federal STEM  
9 and relevant non-STEM education  
10 programs recommended by the STEM  
11 Committee established under section  
12 3, as well as non-Federal STEM and  
13 relevant non-STEM programs that  
14 have been recommended by the Board  
15 of Directors of the STEM Council.  
16 The database may include information  
17 on grants, fellowships, internships,  
18 and summer programs at the primary  
19 through graduate levels.

20 (II) SPECIFIC INFORMATION.—  
21 The database established under sub-  
22 clause (I) shall include specific infor-  
23 mation on any programs of financial  
24 assistance that are targeted to indi-  
25 viduals of a particular gender, eth-

1           nicity, or other demographic group,  
2           especially individuals identified in sec-  
3           tion 33 or 34 of the Science and En-  
4           gineering Equal Opportunities Act (42  
5           U.S.C. 1885a or 1885b).

6           (ii) DISSEMINATION OF INFORMATION  
7           ON DATABASE.—The STEM Council shall  
8           take such actions as may be necessary on  
9           an ongoing basis, including sending notices  
10          to educational institutions, to disseminate  
11          information on the database established  
12          and maintained under this subparagraph.

13          (iii) LISTING DIRECT CONTACT INFOR-  
14          MATION.—The database established under  
15          clause (i) shall provide contact information  
16          for awards, including the sponsor’s  
17          website.

18          (iv) APPROVAL.—The STEM Council  
19          shall review submissions for inclusion on  
20          the database established under clause (i)  
21          from prospective sponsors to exclude fraud-  
22          ulent scholarship offers and scholarship  
23          programs that require the payment of an  
24          application fee or other charge. The STEM  
25          Council may—

1 (I) remove information from the  
 2 database if the STEM Council deter-  
 3 mines the information is not in ac-  
 4 cordance with the purpose of the  
 5 database; or

6 (II) promote those programs  
 7 most effective at improving student  
 8 achievement or interest in STEM  
 9 fields.

10 (v) ACCURACY.—Information on  
 11 scholarships included in the database es-  
 12 tablished under clause (i) shall be updated  
 13 not less often than quarterly in order to  
 14 provide current and accurate information  
 15 regarding available scholarships.

16 (vi) LINKS.—The database established  
 17 under clause (i) may have links to other  
 18 privately operated online tools designed to  
 19 help students find scholarships and edu-  
 20 cational opportunities that are approved by  
 21 the STEM Council.

22 (2) PERMISSIVE ACTIVITIES.—The STEM  
 23 Council may carry out any of the following activities:

24 (A) Coordinate the development and main-  
 25 tenance of integrated data management systems

1 to consolidate and share information among  
2 States on STEM educational practices, re-  
3 search, and outcomes, including student assess-  
4 ment results, teacher quality measures, and  
5 high school graduation requirements.

6 (B) Assemble a database of opportunities  
7 for teachers interested in summer research in a  
8 STEM field in a Government research labora-  
9 tory, institution of higher education, or STEM-  
10 related business or industry.

11 (C) Assemble a database of grants and  
12 other funding opportunities for STEM class-  
13 room resources to be used by teachers and local  
14 educational agencies.

15 (e) CORPORATE POWERS.—Not later than 1 year  
16 after the date of enactment of this Act, the STEM Council  
17 shall become a body corporate and as such shall have the  
18 authority to do the following:

19 (1) To adopt and use a corporate seal.

20 (2) To have succession until dissolved by an Act  
21 of Congress.

22 (3) To appoint, through the actions of its  
23 Board of Directors, officers and employees of the  
24 STEM Council, to define their duties and respon-

1 sibilities, fix their compensations, and to dismiss at  
2 will such officers or employees.

3 (4) To prescribe, through the actions of its  
4 Board of Directors, bylaws not inconsistent with  
5 Federal law and the laws of the District of Colum-  
6 bia, regulating the manner in which its general busi-  
7 ness may be conducted and the manner in which the  
8 privileges granted to it by law may be exercised.

9 (5) To exercise, through the actions of its  
10 Board of Directors, all powers specifically granted  
11 by the provisions of this section, and such incidental  
12 powers as shall be necessary.

13 (6) To develop a source of revenue that is in  
14 addition to Federal funds provided under this sec-  
15 tion and that extends later than fiscal year 2013.

16 (7) To pay for a small personnel staff, office  
17 space, equipment, and travel, including employing  
18 not less than 1 executive staff member and 2 profes-  
19 sional staff members.

20 (f) CORPORATE FUNDS.—

21 (1) DEPOSIT OF FUNDS.—The Board of Direc-  
22 tors shall deposit all funds of the STEM Council in  
23 federally chartered and insured depository institu-  
24 tions until such funds are disbursed under para-  
25 graph (2).

1           (2) DISBURSEMENT OF FUNDS.—Funds of the  
 2       STEM Council may be disbursed only for purposes  
 3       that are—

4                   (A) approved by the chief executive of the  
 5       STEM Council; and

6                   (B) in accordance with the mission of the  
 7       STEM Council as specified in subsection (b).

8       (g) USE OF MAILS.—The STEM Council may use the  
 9       United States mails in the same manner and under the  
 10      same conditions as the departments and agencies of the  
 11      United States.

12      (h) FEDERAL ADVISORY COMMITTEE ACT.—Section  
 13      14 of the Federal Advisory Committee Act (5 U.S.C. App)  
 14      shall not apply to the STEM Council.

15      (i) AUTHORIZATION OF APPROPRIATIONS.—There  
 16      are authorized to be appropriated to the STEM Council  
 17      to carry out this section \$2,000,000 for each of fiscal  
 18      years 2009 through 2013.

19      **SEC. 3. COMMITTEE ON SCIENCE, TECHNOLOGY, ENGI-**  
 20                   **NEERING, AND MATHEMATICS EDUCATION.**

21      (a) ESTABLISHMENT.—There is established within  
 22      the National Science and Technology Council a standing  
 23      committee on science, technology, engineering, and mathe-  
 24      matics education (referred to in this section as the  
 25      “STEM Committee”).



1 (b) MEMBERS.—

2 (1) IN GENERAL.—The STEM Committee shall  
3 be composed of representatives from all Federal de-  
4 partments and agencies involved in STEM edu-  
5 cation, including the National Laboratories.

6 (2) CO-CHAIRS.—The STEM Committee shall  
7 have 2 co-chairs—

8 (A) one of whom shall be a representative  
9 from the National Science Foundation; and

10 (B) one of whom shall be the Secretary of  
11 Education or a designee of the Secretary.

12 (c) DUTIES AND RESPONSIBILITIES.—The STEM  
13 Committee shall—

14 (1) coordinate all programs related to education  
15 in science, technology, engineering, and mathematics  
16 (referred to in this section as “STEM”) fields fund-  
17 ed or administered by the Federal Government;

18 (2) conduct an ongoing inventory and assess-  
19 ment of the effectiveness of all Federal education  
20 initiatives related to STEM fields, especially with re-  
21 gard to how the initiatives are serving those individ-  
22 uals identified in section 33 or 34 of the Science and  
23 Engineering Equal Opportunities Act (42 U.S.C.  
24 1885a, 1885b);

1           (3) disseminate the annual report received from  
 2           the STEM Council under section 2(d)(1)(A)(ii) to  
 3           each Federal Agency engaged in STEM education  
 4           efforts;

5           (4) coordinate among all Federal departments  
 6           and agencies involved in STEM education research  
 7           and programs to inventory and assess the effective-  
 8           ness and coherence of Federally funded STEM edu-  
 9           cation programs; and

10          (5) represent all Federal agencies on the Na-  
 11          tional Council for STEM Education and coordinate  
 12          the STEM education efforts of the Federal govern-  
 13          ment with State and local governments through the  
 14          National Council for STEM Education.

15          (d) MEETINGS.—The STEM Committee shall meet  
 16          not less frequently than quarterly.

17       **SEC. 4. EVALUATION OF SCIENCE, TECHNOLOGY, ENGI-**  
 18                               **NEERING, AND MATHEMATICS PROGRAMS OF**  
 19                               **THE DEPARTMENT OF EDUCATION.**

20          (a) IN GENERAL.—The Secretary of Education shall  
 21          conduct, directly or through contract, a comprehensive  
 22          evaluation of all science, technology, engineering, and  
 23          mathematics education (referred to in this section as  
 24          “STEM education”) programs of the Department of Edu-  
 25          cation.

1 (b) PROGRAMS TO EVALUATE.—The STEM edu-  
2 cation programs that shall be evaluated under subsection  
3 (a) shall include the following:

4 (1) The Mathematics and Science Partnerships  
5 program.

6 (2) The Math Now for Elementary School and  
7 Middle School Students program.

8 (3) The Math Skills for Secondary School Stu-  
9 dents program.

10 (4) The Minority Science and Engineering Im-  
11 provement program.

12 (5) The Teachers for a Competitive Tomorrow  
13 program.

14 (6) The National Science and Mathematics Ac-  
15 cess to Retain Talent grant program (the National  
16 SMART grant program).

17 (7) The Teacher Education Assistance for Col-  
18 lege and Higher Education Grants program (the  
19 TEACH Grants program).

20 (8) The Academic Competitiveness Grant pro-  
21 gram.

22 (9) Grant programs authorized under the Carl  
23 D. Perkins Career and Technical Education Act of  
24 2006.

1 (c) CONTENT OF EVALUATION.—The evaluation con-  
2 ducted under subsection (a) shall—

3 (1) examine the coherence of the Department of  
4 Education in administering STEM education pro-  
5 grams, including identifying unnecessary or harmful  
6 overlap;

7 (2) identify the unmet State and local education  
8 needs that could be filled with reorganization or ex-  
9 pansion of STEM education programs existing on  
10 the date of the evaluation;

11 (3) evaluate the ease of access to information  
12 on STEM education programs by students, edu-  
13 cators, and others target populations;

14 (4) evaluate the ability of the Department of  
15 Education to disseminate information from the  
16 STEM Council established under section 2; and

17 (5) propose how the Department of Education  
18 can address any needs or problems identified in  
19 paragraphs (2), (3), and (4).

20 (d) REPORT.—Not later than 1 year after the date  
21 of enactment of this Act, the Secretary of Education, or  
22 the entity with whom the Secretary contracts to conduct  
23 the evaluation under subsection (a), shall submit to Con-  
24 gress a report of such evaluation.

○